

What is claimed is:

1. A control valve system of a variable displacement swash plate type compressor for use in a heating and cooling air conditioner, comprising:

5 a throttling valve provided in a refrigerating circuit;

a constant differential pressure valve arranged to open when a differential pressure between upstream and downstream pressures of the throttling valve reaches a
10 predetermined value, thereby introducing compressor discharge gas to a crank chamber;

external information detecting means for detecting external information such as cooling load or vehicle running state; and

15 control means for determining an opening of the throttling valve based on the external information.

2. The control valve system according to claim 1, wherein said throttling valve is an electromagnetic valve and integrally mounted to said constant differential
20 pressure valve.

3. The control valve system according to claim 1 or 2, wherein said constant differential pressure valve is arranged to introduce the compressor discharge gas on the upstream side of said throttling valve into the crank
25 chamber.

4. The control valve system according to claim 3, further comprising a cutoff valve disposed on the downstream side of said throttling valve.

5. The control valve system according to claim 3 or 4,
30 wherein a discharge gas inflow chamber is formed on the upstream side of said throttling valve, the compressor discharge gas in said discharge gas inflow chamber is introduced into the crank chamber, and said discharge gas

inflow chamber has an inlet thereof directed tangential to a wall surface of the discharge gas inflow chamber.

6. The control valve system according to claim 5,
wherein said discharge gas inflow chamber is formed with a
5 plurality of inlets that are circumferentially spaced from
one another.

7. The control valve system according to claim 1 or 2,
wherein said throttling valve has a pressure receiving
portion that presses said throttling valve in a direction
10 to be opened when it receives a downstream side pressure.

8. The control valve system according to claim 7,
wherein the pressure receiving portion has the same area as
that of a downstream-side pressure receiving surface of
said throttling valve.